

### REMARKS

This responds to the Office Action mailed on November 2, 2004.

Claim 1 is amended, no claims are canceled, and no claims are added; as a result, claims 1-30 are now pending in this application.

#### Claim Amendments

Claim 1 was amended to correct a grammatical error and not for reasons of patentability.

#### §103 Rejection of the Claims

Claims 1-2, 5-8, 10-11, 13-19, 21-22, 24-25, 27-28, and 30 were rejected under 35 USC § 103(a) as being unpatentable over Wang et al. (U.S. 5,832,296; hereinafter “Wang”) in view of Liao et al. (U.S. 6,570,556; hereinafter “Liao”). Applicant respectfully traverses this rejection because the Office Action has not established a *prima facie* case of obviousness regarding claims 1-2, 5-8, 10-11, 13-19, 21-22, 24-25, 27-28, and 30.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do that the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.* The M.P.E.P. adopts this line of reasoning, stating that

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the

prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

Applicant respectfully submits that the Office Action has not established a case of obviousness for at least three reasons. First, neither the references nor knowledge generally available to one of ordinary skill in the art provide any suggestion or motivation to combine Liao and Wang. The Office action asserts that Wang is combined with Liao "to increase conductivity of the pointing device." Final Office Action at page 3, lines 3-7. However, Wang does not indicate that its device lacks conductivity or that it would benefit from increased conductivity. In fact, Wang never mentions conductivity at all. Moreover, although Liao describes using a conductor for increasing conductivity in a sensor, Liao does not explain how the increased conductivity affects its sensor's performance. Liao merely states, "The sensor 433 consists of two electrodes 4222, 4223, a strain gauge 4221, and a conductor 4224, which increases conductivity." (Emphasis added.) Liao at column 2, lines 65-67. Because Liao does not discuss how increasing conductivity affects its sensors, there is no teaching or suggestion that Wang's sensors could be modified to benefit from such increased conductivity. As a result, there is no motivation for combining Wang and Liao for achieving "increase conductivity of the pointing device."

Additionally, the Office action asserts that Wang is combined with Liao "to provide an accurate movement of the cursor by providing a plurality of sensors." Final Office Action at page 3, lines 3-7. However, Wang never mentions a deficiency in cursor movement accuracy. In contrast, Wang highlights alleged advantages of its design. Wang states, "[i]nterface device 82 is easily manipulated since the movement required by the thumb and the flexing action employ independent muscle movements which do not interfere with each other." Wang at

column 7, lines 11- 15. As for Liao, it describes a “pointing stick for use to control the cursor movement on a display device.” Although Liao’s pointing stick has a plurality of sensors, Liao does not disclose how its sensors affect cursor movement accuracy. Because Liao does not discuss how its sensors affect cursor movement accuracy, there is no teaching or suggestions that Liao’s plurality of sensors would increase Wang’s cursor accuracy. As a result, there is no motivation for combining Wang and Liao “to provide an accurate movement of the cursor by providing a plurality of sensors.”

If the Office Action combined Wang with Liao based on a suggestion from knowledge available to one of ordinary skill in the art, Applicant requests a reference or affidavit to show evidence of the existence of such knowledge.

Second, altering Wang’s device to include Liao’s sensors would render Wang’s device inoperable and unsatisfactory for its intended purpose. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); MPEP § 2143.01. The Office Action asserts that it would have been obvious “to include the sensors taught by Liao to replace the sensor (16) of Wang’s device.” (Emphasis added.) Final Office Action at page 3, lines 3-7. Wang teaches an interface device that may be worn on a finger. Wang at column 2, lines 3-20. Wang’s interface device includes an internal pressure sensor and a two-dimensional force sensor. See Wang at column 4, lines 21-40. In contrast, Liao teaches a plurality of sensors disposed on a cylindrical pointing stick. Liao at column 2, lines 50-55. If the Wang’s interface device were modified to work with Liao’s sensors, Wang’s internal pressure sensor and two-dimensional force sensor would be replaced with Liao’s pointing stick sensors. However, Liao’s sensors are particularly designed to

work with Liao's cylindrical pointing stick. Because Wang's interface device does not include a cylindrical pointing stick, Liao's sensors would not work in Wang's interface device. As a result, there is no suggestion or motivation to make the proposed modification.

Third, the combination of Liao and Wang does not teach all the elements of each of the rejected claims. Regarding independent claim 1, the Office Action also asserts that Wang (column 5, lines 25-35) teaches the claimed "controller adapted to create position information based on activation of one or more of the plurality of sensors." The cited passage states:

The A/D converter 40 transforms the analog signals to digital signals and communicates the digital signals to a processor 42. Of course, a number of A/D converters may be utilized depending on the particular characteristics of the signals generated by the various sensors. Preferably, processor 42 is a microprocessor to provide flexibility and adaptability. However, processor 42 may also be an application specific integrated circuit (ASIC) which may be designed to utilize significantly less power than a general purpose microprocessor. Universal interface device 10 may be configured to accommodate varying levels of functionality. Wang at column 5, lines 25-35.

Applicant respectfully submits that the Office Action has mischaracterized the cited passage of Wang. As can be seen above, the cited passage does not teach or suggest a "controller adapted to create position information based on activation of one or more of the plurality of sensors."

The Office Action also asserts that Liao (column 2, line 57 to column 3, line 14) teaches the claimed "wherein each of the plurality of sensors can be activated for positioning the pointer on the display screen." The cited passage from Liao states:

Based on the assembly requirement, the substrate 41 may be in a corresponding suitable shape. We use a T-shaped substrate in the following as an embodiment. In order to assemble the substrate 41 to the keyboard baseplate (not shown), multiple of female screws

411 are provided. A plurality of sensors 422 are formed over the circular surface of the stick 42. Liao column 2, lines 57-63.

The cited passage goes on to discuss details about the composition and layout of sensors on Liao's cylindrical pointing stick. See Liao at column 2, line 64 to column 3, line 14. Although the cited passage describes sensors of a pointing stick, Applicant cannot find anything in the cited passage that teaches or suggests activating the sensors for positioning the pointer on a display screen, as recited in claim 1.

For at least the reasons discussed above, Applicant respectfully submits that the combination of Wang and Liao does not teach or suggest each and every element of independent claim 1.

Dependent claims 2, 5-8, 10, and 11 depend, directly or indirectly, on independent claim 1. Therefore, these claims include all the features recited in claim 1. Applicant submits that dependant claims 2, 5-8, 10, and 11 are allowable for at least the reasons set forth above, in the discussion of independent claim 1.

The Office Action asserts that claims 13-19, 21, 22, 24, 25, 27, 28, and 30, are similar to claims 1, 2, 5-8, 10, and 11 and rejected them on the same grounds. Applicant respectfully submits that each of these claims is patentably distinct over the others. Applicant respectfully submits that the Office Action has not addressed independent claim 13's "detecting activation of one of a plurality of sensors." The Office Action has not recited a passage in either Wang or Laio that teaches or suggests "detecting activation of one of a plurality of sensors."

Regarding independent claim 18, Applicant respectfully submits that the Office Action did not address claim 18's "wherein the controller is to translate a signal from the sensor unit into movement information, and wherein the transmitter is to transmit the movement information

to the receiver.” The Office Action did not point to a passage in either Wang or Laio that teaches this claim feature.

Regarding independent claim 27, Applicant respectfully submits that the Office Action did not address claim 27’s “creating position information for the pointer on the display screen based on which one of the plurality of sensors was activated.” The Office Action does not point to a passage in either Wang or Liao that teaches the claim feature.

For the reasons discussed above and for reasons similar to those discussed vis-à-vis claim 1, Applicant submits that claims 13, 18, and 27 are allowable over Wang and Liao.

Dependent claims 14-17, 19, 21, 22, 24, 25, 28, and 30 each depend, directly or indirectly, on one of independent claims 13, 18, or 27. Applicant submits that dependant claims 14-17, 19, 21, 22, 24, 25, 28, and 30 are allowable for at least the reasons set forth above, in the discussion of independent claims 13, 18, and 27.

Claims 3-4 and 20 were rejected under 35 USC § 103(a) as being unpatentable over Wang et al. (U.S. 5,832,296) and Liao et al. (U.S. 6,570,556) in view of Eng et al. (U.S. 5,638,092).

Dependent claims 3-4 and 20 each depend, directly or indirectly on one of dependent claims 1 or 18. Therefore, they include all the features of the claims on which they depend. As noted above, the combination of Wang and Laio does not teach or suggest each and every element of independent claims 1 and 18. For the combination of Wang, Laio, and Eng to teach or suggest each and every element of dependent claims 3, 4 and 20, Eng must teach what Wang and Laio are missing. Applicant respectfully submits that Eng does not teach or suggest what Wang and Laio are missing (see discussion of independent claims 1 and 18). As such, Applicant

respectfully submits that the combination of Wang, Laio, and Eng does not teach or suggest each and every element of dependent claims 3, 4, and 20.

Claims 9, 12, 23, 26, and 29 were rejected under 35 USC § 103(a) as being unpatentable over Wang et al. (U.S. 5,832,296) and Liao et al. (U.S. 6,570,556) in view of Russell (U.S. 5,481,265).

Dependent claims 9, 12, 23, 26, and 29 each depend, directly or indirectly on one of dependent claims 1, 18, or 27. Therefore, these include all the features of the claims from which they depend. As noted above, the combination of Wang and Laio does not teach or suggest each and every element of independent claims 1 and 18. For the combination of Wang, Laio, and Russell to teach or suggest each and every element of dependent claims 3, 4 and 20, Russell must provide what Wang and Laio are missing. Applicant respectfully submits that Russell does not teach or suggest what Wang and Laio are missing (see discussion of independent claims 1, 18 and 27.) As such, Applicant respectfully submits that the combination of Wang, Laio and Russell does not teach or suggest each and every element of dependent claims 9, 12, 23, 26, and 29.

*Reservation of Rights*

Applicant does not admit that documents cited under 35 U.S.C. §§ 102(a), 102(e), 103/102(a), or 103/102(e) are prior art, and reserves the right to swear behind them at a later date. Arguments presented to distinguish such documents should not be construed as admissions that the documents are prior art.

AMENDMENT UNDER 37 C.F.R. 1.116 – EXPEDITED PROCEDURE

Serial Number: 09/722,996

Filing Date: November 27, 2000

Title: RING POINTING DEVICE

Assignee: Intel Corporation

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Dkt: 884.334US1 (INTEL)

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, Andrew DeLizio at 612-371-2169, or Applicant's below-named representative to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 3rd day of January, 2005.

Dennis Kamph

Name

  
Signature